

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2000	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)				PROJECT 672808	
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
672808 Nuc Detonation Det Sys (sensors)	12,766	14,224	17,088	17,322	18,451	23,277	21,752	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u></p> <p>The Nuclear Detonation (NUDET) Detection System (NDS) provides a worldwide, highly survivable capability to detect, locate, and report any nuclear detonations in the earth's atmosphere or in near space in near-real time. The NDS supports NUDET detection requirements for USSPACECOM (Integrated Tactical Warning and Attack Assessment [ITW/AA]), USSTRATCOM (Nuclear Force Management), and AFTAC (Treaty Monitoring). NDS consists of space and ground segments. The space segment consists of NUDET detection sensors on the Global Positioning System (GPS) satellites. The ground segment includes the Integrated Correlation and Display System (ICADS) and the Ground NDS Terminals (GNT).</p> <p>This NDS program element funds Research and Development of ICADS, GNT, and NDS analysis payload (NAP). ICADS provides a fixed ground receiving station. GNT provides a survivable ground receiving station. NAP improves existing NDS capability and will be integrated onto GPS Block IIR satellites 13-21. DOD also funds the development of the Electromagnetic Pulse (EMP) sensor for the Block IIR. The EMP sensor for GPS Block IIF is funded in the National Foreign Intelligence Program (NFIP).</p> <p>(U) <u>FY 1999 (\$ in Thousands)</u></p> <p>(U) \$10,084 Continued ICADS and GNT development</p> <p>(U) \$1,052 Continued NDS sensor on-orbit qualification</p> <p>(U) \$816 Completed NDS/NAP (NDS Analysis Package) program integration</p> <p>(U) \$100 Continued Space long range planning and analysis</p> <p>(U) \$714 Continued mission support requirements</p> <p>(U) \$12,766 Total</p> <p>(U) <u>FY 2000 (\$ in Thousands)</u></p> <p>(U) \$12,360 Continue ICADS and GNT development</p> <p>(U) \$1,090 Continue NDS sensor on-orbit qualification</p> <p>(U) \$108 Continued Space long range planning and analysis</p> <p>(U) \$666 Continue mission support requirements</p>									
Project 672808			Page 1 of 6 Pages				Exhibit R-2 (PE 0305913F)		

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2000																																																													
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)		PROJECT 672808																																																												
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2000 (\$ in Thousands) Continued</u></p> <p>(U) \$14,224 Total</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$15,156 Continue ICADS and GNT development</p> <p>(U) \$1,123 Continue NDS sensor on-orbit qualification</p> <p>(U) \$129 Continued Space long range planning and analysis</p> <p>(U) \$680 Continue mission support requirement</p> <p>(U) \$17,088 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p style="padding-left: 20px;">This program is in Budget Activity 7 - Operational System Development because it is a post-Milestone III program.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 10%; text-align: center;"><u>FY 1999</u></th> <th style="width: 10%; text-align: center;"><u>FY 2000</u></th> <th style="width: 10%; text-align: center;"><u>FY 2001</u></th> <th style="width: 20%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget (FY 2000 PBR)</td> <td style="text-align: center;">13,050</td> <td style="text-align: center;">14,430</td> <td style="text-align: center;">17,241</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">13,314</td> <td style="text-align: center;">14,430</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td style="text-align: center;">-264</td> <td style="text-align: center;">-15</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td style="text-align: center;">-176</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td style="text-align: center;">-78</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td style="text-align: center;">-37</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td style="text-align: center;">-71</td> <td style="text-align: center;">-113</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">f. Other</td> <td></td> <td></td> <td></td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2000 PBR</td> <td></td> <td></td> <td style="text-align: center;">-153</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2001 PBR</td> <td style="text-align: center;">12,766</td> <td style="text-align: center;">14,224</td> <td style="text-align: center;">17,088</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u></p> <p style="padding-left: 20px;">-\$154K FY01 adjustment funded higher priority Air Force efforts.</p>					<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>	(U) Previous President's Budget (FY 2000 PBR)	13,050	14,430	17,241	TBD	(U) Appropriated Value	13,314	14,430			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-264	-15			b. Small Business Innovative Research	-176				c. Omnibus or Other Above Threshold Reprogram		-78			d. Below Threshold Reprogram	-37				e. Rescissions	-71	-113			f. Other				TBD	(U) Adjustments to Budget Years Since FY 2000 PBR			-153		(U) Current Budget Submit/FY 2001 PBR	12,766	14,224	17,088	TBD
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>																																																											
(U) Previous President's Budget (FY 2000 PBR)	13,050	14,430	17,241	TBD																																																											
(U) Appropriated Value	13,314	14,430																																																													
(U) Adjustments to Appropriated Value																																																															
a. Congressional/General Reductions	-264	-15																																																													
b. Small Business Innovative Research	-176																																																														
c. Omnibus or Other Above Threshold Reprogram		-78																																																													
d. Below Threshold Reprogram	-37																																																														
e. Rescissions	-71	-113																																																													
f. Other				TBD																																																											
(U) Adjustments to Budget Years Since FY 2000 PBR			-153																																																												
(U) Current Budget Submit/FY 2001 PBR	12,766	14,224	17,088	TBD																																																											
Project 672808		Exhibit R-2 (PE 0305913F)																																																													

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2000	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)				PROJECT 672808	
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>									
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
(U) Operations & Maintenance, (PE 0305913F, BA 1, Operating Forces	5,355	5,851	8,070	9,359	8,612	8,187	9,102	Continuing	Continuing
(U) Missile Procurement, (PE 0305913F, BA 45 - Space and Other Support, P-22)	2,780	1,547	1,478	1,507	1,539	1,568	1,601	Continuing	Continuing
(U) Other Procurement, (PE 0305913F, BA 63 - Electronics and Telecom Equipment, P-64)	1,265	3,459	2,674	8,443	7,957	12,677	11,876	Continuing	Continuing
(U) Related RDT&E:									
(U) PE 305165F, Navstar GPS	101,587	107,451	250,197	209,114	181,291	132,711	101,958	Continuing	Continuing
(U) PE 305911F, Defense Support Program	13,971	7,361	11,462	6,418	6,697	0	0	0	1,923,990
(U) <u>E. Acquisition Strategy</u>									
The NDS Acquisition Strategy is to develop and procure components to sustain the U. S. NDS capability for the GPS Block IIR and IIF satellites. Funding is sent by Military Interdepartmental Purchase Request (MIPR) from DoD and Department of Energy (DoE) to Sandia and Los Alamos National Laboratories on an existing DOE contract.									
(U) <u>F. Schedule Profile</u>									
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>						

Project 672808
Page 3 of 6 Pages
Exhibit R-2 (PE 0305913F)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2000			
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)					PROJECT 672808			
(U) <u>F. Schedule Profile Continued</u>													
		<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	
(U) GPS IIF Use Case Model Overview		*											
(U) GPS IIF System Specification Review	*					X							
(U) GPS IIF System specification Configuration Control Board (CCB)		*				X							
(U) GPS IIF Phase Review	*		*		*		X		X		X		
(U) GPS IIR Acceptance Test (AT)													
(U) GPS IIR Operational Acceptance													
(U) GPS IIR Y2K Testing	*												
(U) GPS IIR O&M (S/W Modifications)		*	*	*		X	X	X	X	X	X	X	
(U) GPS IIR Move to SBIRS Facility			*					X					
* Completed Event X Planned Event													

Project 672808
Page 4 of 6 Pages
Exhibit R-2 (PE 0305913F)

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2000		
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)				PROJECT 672808	
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
						FY 1999	FY 2000	FY 2001		
(U)	ICADS and GNT Development					10,084	12,360	15,156		
(U)	NDS Sensor On-orbit Qualification					1,052	1,090	1,123		
(U)	NDS/NAP Program Integration					816	0	0		
(U)	Space long range planning and analysis					100	108	129		
(U)	Mission support requirements					714	666	680		
(U)	Total					12,766	14,224	17,088		
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
	<u>Contractor or</u>	<u>Contract</u>								
	<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>					
	<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>
	<u>Product Development Organizations</u>									
	ICADS: Sandia National	MIPR	Jan 96	Continuing	Continuing	32,318	9,343	11,509	14,287	Continuing
	Labs									
	GNT: Intermetrics	CPFF	Dec 93	1,262	1,262	1,262	0	0	0	0
	SNL	MIPR	Jan 96	Continuing	Continuing	11,873	0	0	0	0
	SAIC (Intg/Grd Supt)	Time/Matls	Dec 95	Continuing	Continuing	4,344	1,123	1,146	1,172	Continuing
	Combined GOSC/NAP:	FFP	Oct 97	3,633	3,633	6,166	816	0	0	0
	Lockhed Martin									
	SNL	MIPR	Oct 97	Continuing	Continuing	200	0	0	0	0
	SAIC	Time/Matl	Dec97	432	432	432	0	0	0	0
	W-Sensor: SRI (Stanford	CPFF	Aug 94	415	415	415	0	0	0	0
	Rsch Inst.)									
	SNL	MIPR	Oct 94	399	399	399	0	0	0	0
	Los Alamos Natl Lab	MIPR	Jan 96	Continuing	Continuing	4,077	1,052	1,090	1,123	Continuing
Project 672808										
Page 5 of 6 Pages										
Exhibit R-3 (PE 0305913F)										

UNCLASSIFIED

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2000		
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development					0305913F NUDET Detection System (Space)				672808	
(U) <u>Performing Organizations Continued:</u>										
<u>Support and Management Organizations</u>										
Mission Support	Multiple	N/A	Continuing	Continuing	3,529	171	371	377	Continuing	TBD
Long range planning	Multiple	N/A	Continuing	Continuing	73	100	108	129	Continuing	TBD
Prog Contractual Spt.	Multiple	Various	1,534	1,534	1,534	161	0	0	0	1,695
<u>Test and Evaluation Organizations</u>										
Hill AFB Utah			9	9	9					9
(U) <u>Government Furnished Property:</u>										
	<u>Contract</u>									
	<u>Method/Type</u>	<u>Award or</u>								
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>										
N/A										
<u>Support and Management Property</u>										
N/A										
<u>Test and Evaluation Property</u>										
N/A										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					61,486	12,334	13,745	16,582	TBD	TBD
Subtotal Support and Management					5,136	432	479	506	TBD	TBD
Subtotal Test and Evaluation					9					9
Total Project					66,631	12,766	14,224	17,088	TBD	TBD

Project 672808

Page 6 of 6 Pages

Exhibit R-3 (PE 0305913F)